

Joint Clinical Research Centre

Vision: A Vibrant Self Sustaining Centre of Excellence in Medical Research, Training and Healthcare Services

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PRESS RELEASE

The Joint Clinical Research Centre (JCRC) Introduces the First Ever Blood Product Irradiation Service in Uganda and East-Africa

Uganda, Kampala. The Joint Clinical Research Centre (JCRC) has today launched Blood Product Irradiation Service.

The Joint Clinical Research Centre (JCRC) is expanding innovations and introducing cutting-edge technology, the RS3400 System for irradiating blood products before they are given to eligible patients. Today, the Centre is launching the first-ever USA Food and Drug Administration (FDA) approved blood x-ray irradiation medical device used to prevent the transfusion-associated graft-versus-host disease (TA-GVHD) in blood transfusion recipients.

This irradiation equipment uses safe x-rays, a direct alternative to radioactive isotope (gamma) irradiators therefore protecting the environment. The RS3400 irradiation system manufactured by Rad Source Technologies and valued at 1.4 bn Ugx was obtained by JCRC through a collaboration with Sandia National Laboratories, California, USA.

JCRC acquired the first ever RS3400 Blood Irradiator System in sub-Saharan Africa. Previously, getting similar services required traveling to India and South Africa. The system can verifiably irradiate blood products using internationally accepted Rad-Sure Indicators of 25Gy, the gold standard for verifying the efficiency of the irradiation. This new service will contribute to reverse medical tourism.

Transfusion-associated graft-versus-host disease (TA-GVHD)

Blood transfusion is a lifesaving procedure for people who are bleeding and people who cannot make a sufficient amount of blood on their own. A rare but almost always fatal complication from blood transfusion is called transfusion-associated graft-versus-host disease (TAGVHD), where immune cells from the donor blood attack the recipient's organs and cause a deadly infection that is nearly impossible to fight off.

This reaction arises from a type of white blood cells, called Lymphocytes that are present in the donor blood product. These cells may not be compatible with the body of the recipient and react against them leading to organ damage especially the skin, bone marrow, liver and

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gastrointestinal tract. This can occur when the transfusion is from a close relative, or in cases where the recipient's immune system is compromised as can occur during treatment with certain cancer drugs, some cancers that arise from lymph nodes especially Hodgkin's disease, certain organ transplantation and in neonates especially those that are born preterm.

During the irradiation, the lymphocytes present in a blood product are destroyed which prevents their ability to multiply or divide. This is an effective method to stop transfusion-associated graft-versus-host disease (TA-GVHD) from happening.

According to Dr. Francis Ssali, the Deputy Executive Director, Research and Clinical Services at JCRC, the facility can process 288 units of blood (48 cycles) each day with an average patient wait time of 4 minutes, 7 seconds. The products that require irradiation include whole blood, packed red cells, platelets and Neutrophil transfusion. "Radiation neither damages nor renders the blood product radioactive." says Dr. Ssali. The damaged lymphocytes are rendered incapable of dividing hence causing a reaction in the body.

As JCRC celebrates its 30th anniversary in 2023, we are thrilled to introduce this service that will offer Ugandans and the rest of Africa effective and high-quality blood transfusion services. This service will also support the JCRC Bone Marrow Transplant program that it hopes to launch by October 2023. Transplant patients require irradiated blood products and they can get them right on site. The support from Ministry of Health and Government have been central to getting the JCRC to this milestone.

Dr. Diana Atwine, confirmed her support for organizations like JCRC that have shown potential in enhancing the health sector through innovative research in Uganda and Africa

THE JOINT CLINICAL RESEARCH CENTRE (JCRC)

JCRC was established in 1991 to provide a scientific intervention in the HIV/AIDS challenge in Uganda which at the time had the highest HIV prevalence rates in the world. IT was set up as a strategic partnership between the Ministry of Health, Health Department of Ministry of Defense and Makerere University College of Health Sciences.

The Centre in line with its mandate pioneered the use of Anti-Retroviral Therapy (ART) in sub-Saharan Africa from 1992. Thereafter, JCRC imported generic Antiretroviral drugs and

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set up a network model to increase access to ART treatment in the country. JCRC subsequently became a case study for the PEPFAR program announcement culminating into the Centre becoming the first recipient of a 7-year USAID/PEPFAR grant to rapidly expand access to ART in Uganda and train healthcare workers in Uganda and the region to provide ART. The Centre has undertaken several landmark research trials that have shaped HIV/AIDS policies/treatment guidelines worldwide. Over the years, JCRC has continued to expand her services both in terms of services offered, geographical coverage with five Regional Centers of Excellence (RCEs) eswhile continuing appropriate training.

The Center is now engaged with establishing topical research at the frontier of science including Bone marrow Transplant and Gene Therapy.

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